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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

Geoffrey B. Rhoads

Application No.: **10/002,954**

Filed: October 21, 2001

For: USING EMBEDDED STEGANOGRAPHIC IDENTIFIERS IN SEGMENTED AREAS OF GEOGRAPHIC IMAGES AND CHARACTERISTICS CORRESPONDING TO IMAGERY DATA DERIVED FROM AERIAL PLATFORMS

Examiner: A. Blackman

Date: September 20, 2004

Response Under 37 CFR § 1.116

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Art Unit: 2676

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CERTIFICATE OF MAILING

I hereby certify that this paper and the documents referred to as being attached or enclosed herewith are being deposited with the United States Postal Service on September 20, 2004, as First Class Mail in an envelope addressed to: Mail Stop Appeal Brief – Patents, COMMISSIONER FOR PATENTS P.O. Box 1450, Alexandria, VA 22313-1450

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APPEAL BRIEF

Mail Stop Appeal Brief – Patents
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Sir:

Applicants respectfully request the Board of Patent Appeals and Interferences (hereafter "Board") to reverse the outstanding final rejections.

This Appeal Brief is in furtherance of a Notice of Appeal filed August 11, 2004. Please charge the fee required under 37 CFR 1.17(f) or any deficiency to deposit account 50-1071 (please see the accompanying transmittal letter).

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REAL PARTY IN INTEREST

The real party in interest is Digimarc Corporation, by an assignment from the inventors recorded at Reel 012806, Frames 0169-0170, on April 8, 2002.

RELATED APPEALS AND INTERFERENCES

An Appeal Brief is filed concurrently herewith in parent U.S. Patent Application No. 09/800,093.

STATUS OF CLAIMS

Claims 9-18, 41-45 and 48-50 stand finally rejected and are being appealed.

Claims 3-6 are allowed.

Claims 1-2, 7-8, 19-40 and 46-47 have been previously canceled.

STATUS OF AMENDMENTS

All earlier-filed amendments have been entered.

SUMMARY OF CLAIMED SUBJECT MATTER

The claimed subject matter generally relates to steganographically embedding geo-location information in images. One form of steganographic embedding is digital watermarking. Geolocation information may include geo-coordinates, like longitude and latitude, or more complex representations like "geovectors."

In some cases the embedding is limited or confined to specific spatial regions depicted in an image.

One aspect of the invention, as recited in claim 48, is a method of steganographically marking imagery captured from an aerial platform (see, e.g. page 1, paragraph 2; and page 4, paragraph 17). The method includes obtaining first geolocation information corresponding to a first region depicted in the imagery captured from the aerial platform and embedding the first geolocation information in the first region in the form of a digital watermark (see, e.g., page 23,

paragraph 76; page 18, lines 1-3 of paragraph 63; and original claims 40-41). The method further includes obtaining second geolocation information corresponding to at least a second region depicted in the imagery captured from the aerial platform and embedding the second geolocation information in the imagery captured from the aerial platform in the form of a digital watermark (see, e.g., page 11, paragraphs 42-44; page 23, paragraph 76; page 18, lines 1-3 of paragraph 63; and original claim 42).

Another aspect of the invention, as recited in dependent claim 49, is that the second geolocation information of claim 48 is embedded only in the second region (see, e.g., page 23, paragraph 76 and original claim 43).

Yet another aspect, as recited in claim 45, is a method of making a map. The method includes obtaining first geovector information corresponding to at least a first region to be depicted by the map digitally watermarking the first geovector information in the map (see, e.g., page 18, lines 1-3 of paragraph 63; page 19, paragraph 65). The watermarking step includes digitally watermarking the first geovector information redundantly throughout the map (e.g., page 23, lines 5-10; and page 23, lines 10-12 of paragraph 76).

Still another aspect of the claimed invention, as recited in claim 50, is a method of steganographically marking imagery captured from an aerial platform. The method includes obtaining first geolocation information corresponding to a first region depicted in the imagery captured from the aerial platform (see, e.g., page 18, lines 1-3 of paragraph 63; page 19, paragraph 65). The method further includes embedding the first geolocation information in the imagery captured from the aerial platform in the form of a digital watermark, wherein the first geolocation information is redundantly embedded in the imagery captured from the aerial platform (see, e.g., page 23, lines 5-10; and page 23, lines 10-12 of paragraph 76).

Yet another aspect of the invention, as recited in claim 41, is a method of making a map, wherein the map depicts at least a first region and a second region. The method includes obtaining first geolocation information corresponding to at least the first region to be depicted by the map and digitally watermarking the first geolocation information in the map (see, e.g., page 23, paragraph 76; page 18, lines 1-3 of paragraph 63; and original claims 40-41). The

watermarking step includes embedding the first geolocation information only in the first region (see, e.g., page 23, paragraph 76; page 18, lines 1-3 of paragraph 63; and original claims 40-41).

Another aspect of the claimed invention, as recited in claim 42, is a method including obtaining second geolocation information corresponding to at least the second region to be depicted by the map of claim 41 and digitally watermarking the second geolocation information in the map (see, e.g., page 11, paragraphs 42-44; page 23, paragraph 76; page 18, lines 1-3 of paragraph 63; and original claim 42).

Yet another aspect of the invention, as recited in claim 43, is a method where the second geolocation information is only embedded in the second region (see, e.g., page 11, paragraphs 42-44; page 23, paragraph 76; page 18, lines 1-3 of paragraph 63; and original claim 43).

Still another aspect of the claimed invention, as recited in claim 15, is a method of correlating imagery data generated under a plurality of different conditions (see, e.g., Figs. 2a and 2b; and see also pages 13-14, paragraph 52). The method includes embedding imagery characteristics in the imagery data (see, e.g., pages 13-14, paragraph 52). The method further includes modifying the imagery data based on the embedded imagery characteristics so as to standardize at least some of the imagery data (see, e.g., Figs. 2a and 2b; pages 13-14, paragraph 52; Fig. 3; and pages 15-16, paragraph 56).

Another aspect of the claimed invention, as recited in claim 9, is a method of generating a geo-spatial map. The method includes steganographically encoding data in the form of a digital watermark component in each of a plurality of image patches (see, e.g., Fig. 1), the encoded data including a location indicator (see, e.g., Fig. 1; and pages 14-15, paragraph 54). The method further includes piecing together the plurality of image patches based at least in part on the encoded location indicators to provide a geo-spatial map including the plurality of image patches (see, e.g., pages 14-15, paragraph 54; Fig. 3; and pages 15-16, paragraph 56).

Still another aspect of the invention, as recited in claim 11, is a method where least one of the location indicators of claim 9 identifies the geo-coordinates for at least one corner of its respective patch (see, e.g., Fig. 3; and page 15, lines 4-7).

Yet another aspect of the claimed invention, as recited in claim 13, is a method where the location indicators of claim 9 identify a respective patch location within the geo-spatial map relative to at least one adjacent patch (see, e.g., Fig. 3; and page 15, lines 4-7).

Another aspect of the claimed invention, as recited in claim 17, is a method where the imagery characteristics of claim 15 affect a spatial domain representation of the imagery data (see, e.g., Figs. 2a and 2b; and pages 13-14, paragraph 52). The imagery characteristics comprising at least one of scale, rotation, altitude, attitude, resolution, time, imaging device type, and skew (see, e.g., Figs. 2a and 2b; and pages 13-14, paragraph 52).

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

1. Claims 9-16, 18, 41-45 and 48-50 stand finally rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,504,571 (hereafter "the Narayanaswami patent").

2. Claim 17 stands finally rejected under 35 U.S.C. 103(a) as being unpatentable over the Narayanaswami patent in view of U.S. Patent No. 6,526,155 (hereafter "the Wang patent").

ARGUMENT

Introduction

The cited references fail to teach or suggest all of the elements of the pending claims for at least the reasons set forth below.

Rejection under U.S.C. 102(e) over the Narayanaswami patent

Claim 48

Independent claim 48 reads as follows:

48. *A method of steganographically marking imagery captured from an aerial platform, said method comprising:*

obtaining first geolocation information corresponding to a first region depicted in the imagery captured from the aerial platform;

embedding the first geolocation information in the first region in the form of a digital watermark;

obtaining second geolocation information corresponding to at least a second region depicted in the imagery captured from the aerial platform; and

embedding the second geolocation information in the imagery captured from the aerial platform in the form of a digital watermark.

The Office cites the Narayanaswami patent at Col. 8, lines 6-21 and 40-62, and Col. 7, lines 25-46 as teaching the combination recited in claim 48. Applicants respectfully disagree.

While the cited passages discuss embedding different parameters (e.g., location and axis orientation) in each image, the parameters represent a single location associated with an image (see, e.g., Col. 7, lines 25-30). The cited Narayanaswami patent passages do not suggest embedding multiple location parameters – *each of which correspond to different regions depicted in the same image* – in the same image. More precisely, the cited passages do not teach or suggest embedding first geolocation information in a first region of an image, and second geolocation information in the same image.

Indeed, the Narayanaswami patent at the cited Col. 7 and Col. 8 passages seems to only embed one geolocation information per image (e.g., see Col. 7, lines 25-30), not multiple different geolocation information per image.

Respectfully, the final rejection of claim 48 should be reversed.

Claim 49

Dependent claim 49 reads as follows:

49. *The method according to claim 48, wherein the second geolocation information is embedded only in the second region.*

Embedded second geolocation information is limited to the second region. For example, if the embedding is digital watermarking, the watermarking will only be found in an area defined by the second region.

Consider a map depicting an airport and a duck pond near the airport. The second region of claim 41 corresponds to the duck pond, with the second geolocation information (e.g., geo-coordinates) then necessarily corresponding to the duck pond. Embedding the second geolocation information in the map will only occur in the area representing the duck pond, and not in a first region representing the airport. (Of course, there are many other implementations and examples that will fall within the scope of claim 49. Reciting this example should in no way limit the scope of claim 49.).

The Narayanaswami patent gives examples of location information (see, e.g., Col. 7, lines 25-30), but fails to connect this information for embedding only in a second region depicted in a map – where the map depicts several different geographical regions. Instead, at Col. 8, lines 14-16, the Narayanaswami patent merely mentions that recorded parameters can be "watermarked into every captured image." The Narayanaswami patent fails to teach region-limited watermarking of geolocation information, in combination with the remaining features of claim 49.

We respectfully submit that the final rejection of claim 49 be reversed.

Claim 45

Independent claim 45 reads as follows:

45. *A method of making a map comprising:*

obtaining first geovector information corresponding to at least a first region to be depicted by the map; and

digitally watermarking the first geovector information in the map, wherein said watermarking step comprises digitally watermarking the first geovector information redundantly throughout the map.

First geovector information (e.g., latitude/longitude or other coordinates) corresponds to a first region to be depicted by a map. The first geovector information is redundantly watermarked throughout the map.

By way of example only, a map is divided into 16 blocks. The first region (and corresponding first geovector) corresponds to a first block. Instead of isolating watermarking of the first geovector to the first block, redundant instances of the geovector are watermarked in some or all of the remaining 15 blocks. Related examples are found, e.g., in paragraphs 74 and 76 of the specification. (Of course, there are many other examples and implementations that will be covered by claim 45.).

In contrast, the Narayanaswami patent would allow "recorded parameters to be watermarked into every captured image," (see Col. 8, lines 14-16) but does not suggest redundantly watermarking first geovector information throughout a map, in combination with the features of claim 45.

The Examiner seems to *concede* this position, on page 5 of the Office Action (lines 11-12)[1], where it states: "Further, the reference [Narayanaswami] does not disclose watermarking a single set of parameters more than once."

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1 The Examiner's statement is made with respect to Claim 41.

Despite this statement the examiner suggests in paragraph 7, pages 5 and 6 of the final office action, that the Narayanaswami patent *does* teach redundant embedding of geovector information (which corresponds to a first region of a map). The examiner suggests that first geolocation/geovector data that becomes embedded/watermarked is "pieced" together, the watermarking thus becoming redundant.[2]

Even if we assume – only for argument's sake – that the Narayanaswami patent pieces together different images, as suggested by the Examiner, the different images would have different geovector information therein, not redundant instances of the first geovector in each of the images, which corresponds to the first region of the map.

We respectfully request that the final rejection of claim 45 be reversed.

Claim 50

Independent claim 50 reads as follows:

50. *A method of steganographically marking imagery captured from an aerial platform, said method comprising:*

obtaining first geolocation information corresponding to a first region depicted in the imagery captured from the aerial platform;

embedding the first geolocation information in the imagery captured from the aerial platform in the form of a digital watermark, wherein the first geolocation information is redundantly embedded in the imagery captured from the aerial platform.

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2 With reference to our comments, below, supporting patentability of claim 9, we disagree that the Narayanaswami patent teaches "piecing" images together based on encoded indicators.

First geolocation information (e.g., geo-coordinates) corresponds to a first region depicted in imagery captured from an aerial platform. The first geolocation information is redundantly embedded in the imagery in the form of a digital watermark.

By way of example only, aerial imagery is divided into 64 blocks. The first region (and corresponding first geovector) corresponds to a first block. Instead of isolating watermarking of the first geovector to the first block, the geovector is watermarked in some or all of the remaining 63 blocks. Related examples are found, e.g., in paragraphs 74 and 76 of the specification. (Of course, there are many other examples and implementations that will be covered by claim 50.).

In contrast, the Narayanaswami patent calls for "recorded parameters to be watermarked into every captured image," (see Col. 8, lines 14-16) but does not does not teach or suggest redundantly watermarking first geovector information throughout a map, in combination with the features of claim 50.

Again, the office concedes this position, on page 5 of the Office Action (lines 11-12)[3], where it states: "Further, the reference [Narayanaswami] does not disclose watermarking a single set of parameters more than once."

Despite this statement the examiner suggests in paragraph 7, pages 5 and 6 of the final office action, that the Narayanaswami patent *does* teach redundant embedding of geolocation information (which corresponds to a first region of the aerial imagery). The examiner suggests that first geolocation/geovector data that becomes embedded/watermarked is "pieced" together, the watermarking thus becoming redundant.[4]

Yet as we discussed above, even if we assume – only for argument's sake – that the Narayanaswami patent pieces together different images, the different images would have different geolocation information therein, not redundant instances of the first geolocation in each of the images.

We respectfully request that the final rejection of claim 50 be reversed.

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3 The Examiner's statement is made with respect to Claim 41.

4 With reference to our comments, below, supporting patentability of claim 9, we disagree that the Narayanaswami patent teaches "piecing" images together based on encoded indicators.

Claims 41 and 44

Independent claim 41 reads as follows:

41. *A method of making a map, wherein the map depicts at least a first region and a second region, said method comprising:*

obtaining first geolocation information corresponding to at least the first region to be depicted by the map; and

digitally watermarking the first geolocation information in the map, wherein said watermarking step comprises embedding the first geolocation information only in the first region.

The map of claim 41 depicts at least a first region and a second region. A watermark including geolocation information – corresponding to the first region – is embedded only in the first region.

An example presented in an earlier response is illustrative. Consider a map depicting an airport and a duck pond near the airport. The first region of claim 41 may correspond to the duck pond and the first geolocation information (e.g., geo-coordinates) then necessarily corresponds to the duck pond. Embedding the first geolocation information in the map would then occur only in the area representing the duck pond, and not in a second region representing the airport. (Of course, there are many other implementations and examples that will fall within the scope of claim 41. Reciting this example should in no way limit the scope of claim 41.).

The Narayanaswami patent is cited as teaching embedding first geolocation information only in a first region (see Office Action at page 10, lines 5-7 of paragraph 31) of a map depicting first and second regions. Applicants respectfully disagree

The Narayanaswami patent gives examples of location information (see, e.g., Col. 7, lines 25-30), but fails to connect this information for embedding only in a first region depicted in a map – where the map depicts several different geographical regions. Instead, at Col. 8, lines 14-16, the Narayanaswami patent merely mentions that recorded parameters can be "watermarked into every captured image." The Narayanaswami patent fails to teach region based watermarking of geolocation information, in combination with the remaining features of claim 41.

The Examiner's statements on page 5, paragraph 6, fail to address this type of region based watermarking of geolocation information.

We respectfully submit that the final rejection of claim 41 be reversed.

Claim 42

Dependent claim 42 recites as follows

42. *The method according to claim 41, further comprising obtaining second geolocation information corresponding to at least the second region to be depicted by the map and digitally watermarking the second geolocation information in the map.*

While the cited passages (i.e., Col. 7, lines 25-46 and Col. 8, lines 6-21) discuss embedding different parameters (e.g., a single location and axis orientation) in each image, the passages are not understood to embed multiple location parameters – *each of which correspond to different regions depicted in the same image* – in the same image. More precisely, the cited passages are not understood to teach or suggest embedding first geolocation information only in a first region of an image, and second, different geolocation information in the same image.

Indeed, the Narayanaswami patent at the cited Col. 7 and 8 passages seems to only embed one geolocation information per image (e.g., see Col. 7, lines 25-30), not multiple different geolocation information per image.

Respectfully, the final rejection of claim 42 should be reversed.

Claim 43

Dependent claim 43 reads as follows:

43. The method according to claim 42, wherein said the second geolocation information is only embedded in the second region.

Claim 43 further defines the combinations recited in claims 41 and 42. Claim 43 requires that the both the first geolocation information and the second geolocation information only be embedded in the first region and second region, respectively.

Again, the Narayanaswami patent is not understood to teach or suggest limited region-based embedding. Instead, the Narayanaswami patent would merely embed information "into every captured image" (see Col. 8, lines 14-16).

We respectfully submit that claim 43 should be allowed.

Claims 15, 16 and 18

Independent claim 15

15. *A method of correlating imagery data generated under a plurality of different conditions, said method comprising:*

embedding imagery characteristics in the imagery data; and

modifying the imagery data based on the embedded imagery characteristics so as to standardize at least some of the imagery data.

Imagery characteristics are embedded in imagery data. These characteristics provide clues as to the nature (e.g., scale, skew, resolution, rotation, etc.) of the imagery. Claim 15 requires that the imagery be modified based on the embedded imagery characteristics so as to standardize the imagery. Modification may be needed, e.g., since the imagery data is generated

or captured under a plurality of different conditions (e.g., captured at different angles or altitudes).

Modification may involve modifying or changing resolution, scale, skew, rotation, etc. of the imagery data based on the imagery characteristics, see, e.g., paragraph 52, spanning pages 13 and 14 of the specification, and Figs. 2a and 2b. (Of course, there are many other modifications that will fall within the scope of claim 15. And this example should in no way limit the scope of claim 15.)

The Narayanaswami patent is cited as teaching modifying imagery data based on embedded imagery characteristics so as to standardize at least some of the imagery data (see the final Office Action at page 4, lines 6-7 and 10-13 paragraph 5, citing the Narayanaswami patent at Col. 4, lines 2-6 and 19-41).

Applicants respectfully disagree.

The Narayanaswami patent at Col. 4, lines 2-6 discusses querying an image archive, and lines 19-31 discusses retrieving digital images from an image database and accessing a geographic boundary database. Col. 4, lines 32-41, discusses generating a map by retrieving digital images. Thus, these passages are not understood to teach modifying or changing imagery data based on embedded characteristics so as to standardize some of the imagery characteristics.

We respectfully request that the final rejection of claim 15 be reversed.

Claims 9, 10, 12 and 14

Independent claim 9 reads as follows:

9. *A method of generating a geo-spatial map comprising:*

steganographically encoding data in the form of a digital watermark component in each of a plurality of image patches, said encoded data including a location indicator; and

piecing together the plurality of image patches based at least in part on the encoded location indicators to provide a geo-spatial map including the plurality of image patches.

The Examiner cites passages in the Narayanaswami patent at Col. 3 and Col. 4 as teaching the combination as recited in claim 9. Applicants respectfully disagree.

In particular, while lines 32-41 of Col. 4, may discuss map generation, the passage is not understood to piece together image blocks based on encoded location indicators. In fact, the "generating" cited by the Examiner seems to "retrieve" images, but not piece them together based on encoded location indicators. The retrieved images are then displayed, e.g., as discussed at Col. 4, line 42.

But the Narayanaswami patent lacks the teaching of arranging images together (or "quilting," see, e.g., paragraph 52 of subject specification) based on the encoded information.

We respectfully request that the final rejection of claim 9 be reversed.

Claims 11

Dependent claim 11 recites:

11. *The method according to claim 10, wherein at least one of the location indicators identifies the geo-coordinates for at least one corner of its respective patch.*

The Office relies on the Narayanaswami patent at Col. 3, lines 6-50; Col. 4, lines 2-41 and Figs. 2 and 3 as teaching encoded location indicators identifying geo-coordinates for at least one corner of its respective patch.

We do not see any mention of identifying geo-coordinates for corners of image patches in the cited passages. Thus, the Narayanaswami patent fails to teach all of the limitations of claim 11.

We respectfully request reversal of the outstanding rejection of claim 11.

Claims 13

Dependent claim 13 recites:

13. *The method according to claim 9, wherein the location indicator identifies a respective patch location within the geo-spatial map relative to at least one adjacent patch.*

The Office again relies on the Narayanaswami patent at Col. 3, lines 6-50; Col. 4, lines 2-41 and Figs. 2 and 3 as teaching encoded location indicators identifying a respective patch location within the geo-spatial map relative to at least one adjacent patch.

While the cited passages may record geographic location data (see, e.g., Col. 3, lines 58-61 -- altitude and longitude) for each patch, the passages are not understood to encode information identifying locations in a relative manner to adjacent patches.

We respectfully request reversal of the outstanding rejection of claim 13.

Rejection under U.S.C. 103(a) over the Narayanaswami patent in view of the Wang patent

Claim 17

Dependent claim 17 reads as follows:

17. *The method according to claim 15, wherein said imagery characteristics affect a spatial domain representation of the imagery data, said imagery characteristics comprising at least one of scale, rotation, altitude, attitude, resolution, time, imaging device type, and skew.*

Recall that the imagery characteristics are embedded in imagery data (see claim 15). The characteristics are used to determine how to modify the imagery data so as to standardize the imagery data (see, e.g., applicants' Figs. 2a and 2b).

The Wang patent changes a color level within an image to accommodate a visually perceptible pattern (see, Fig. 1, element 110, of the Wang patent). In contrast, claim 17 would standardize different images generated under different conditions (see, e.g., applicants' Figs. 2a and 2b) through reliance on the imagery characteristics.

Applicants also object to the proposed combination of the Narayanaswami patent with the Wang patent. The Narayanaswami patent is understood to deal with imperceptible digital

watermarking (or steganographic encoding) while the relied upon passages from the Wang patent envision "visible" watermarks. Moreover, the tie-in feature relied on from the Narayanaswami patent – *time* – (see page 12 of the office action at paragraph 26, citing the Narayanaswami patent, Col. 3, lines 55-65) is not even discussed at the relied upon passages of the Wang patent (see page 13 of the office action, citing the Wang patent at Col. 4, line 4 – Col. 5, line 9.). Instead, the cited passages of the Wang patent discuss varying gray scale levels. Thus, there has not been a sufficient showing of a successful combination, or a likelihood of success, even if combined.

We respectfully request that the final rejection of claim 17 be reversed.

CONCLUSION AND REQUEST FOR REVERSAL

The cited references fail to disclose all of the limitations of the pending claims. (Other deficiencies of the art need not be further belabored at this time.) As such, the claims are patentable over the cited references.

Applicants respectfully request that the Board reverse the final rejection of the pending claims.

Respectfully submitted,

Date: September 20, 2004

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CLAIMS APPENDIX

3. (previously presented): A method of compiling aerial imagery and generating a map there from comprising:

segmenting image data into a plurality of patches, the image data acquired from an aerial platform;

digitally watermarking the image data to include imagery characteristics corresponding to the image data, wherein said digital watermarking comprises embedding a watermark in each of the plurality of patches, the watermark including imagery characteristics for its respective patch;

correlating the image data based on the imagery characteristics; and

generating a map from the correlated image data.

4. (original): The method according to claim 3, wherein said correlating step comprises adjusting image characteristics for at least one of the plurality of patches so that at least two adjacently positioned patches have similar imagery characteristics.

5. (previously presented): The method according to claim 3, wherein said generating step comprises quilting the plurality of patches together to generate the map.

6. (previously presented): The method according to claim 3, wherein the aerial platform comprises at least one of satellite, airplane, space shuttle, and unmanned aircraft.

9. (previously presented): A method of generating a geo-spatial map comprising:

steganographically encoding data in the form of a digital watermark component in each of a plurality of image patches, said encoded data including a location indicator; and

piecing together the plurality of image patches based at least in part on the encoded location indicators to provide a geo-spatial map including the plurality of image patches.

10. (previously presented): The method according to claim 9, wherein the location indicator identifies geo-coordinates of its respective image patch, with each of the plurality of image patches including a unique location identifier representing unique geo-coordinates.

11. (previously presented): The method according to claim 10, wherein at least one of the location indicators identifies the geo-coordinates for at least one corner of its respective patch.

12. (previously presented): The method according to claim 9, wherein the location indicator identifies a respective patch location relative to the map.

13. (previously presented): The method according to claim 9, wherein the location indicator identifies a respective patch location within the geo-spatial map relative to at least one adjacent patch.

14. (previously presented): The method according to claim 9, wherein the location indicator comprises an index, and said method further comprises indexing a database with the index to retrieve location information.

15. (previously presented): A method of correlating imagery data generated under a plurality of different conditions, said method comprising:

embedding imagery characteristics in the imagery data; and

modifying the imagery data based on the embedded imagery characteristics so as to standardize at least some of the imagery data.

16. (previously presented): The method according to claim 15, wherein said conditions comprise at least one of aerial platforms, altitude, time, cloud cover, resolution and scale.

17. (previously presented): The method according to claim 15, wherein said imagery characteristics affect a spatial domain representation of the imagery data, said imagery characteristics comprising at least one of scale, rotation, altitude, attitude, resolution, time, imaging device type, and skew.

18. (original): The method according to claim 15, wherein said imagery characteristics comprise an index which is used to identify at least one of scale, rotation, altitude, attitude, resolution, time, imaging device type, and skew.

41. (previously presented): A method of making a map, wherein the map depicts at least a first region and a second region, said method comprising:

obtaining first geolocation information corresponding to at least the first region to be depicted by the map; and

digitally watermarking the first geolocation information in the map, wherein said watermarking step comprises embedding the first geolocation information only in the first region.

42. (previously presented): The method according to claim 41, further comprising obtaining second geolocation information corresponding to at least the second region to be depicted by the map and digitally watermarking the second geolocation information in the map.

43. (previously presented): The method according to claim 42, wherein said the second geolocation information is only embedded in the second region.

44. (previously presented): The method according to claim 41, wherein the first region comprises at least one of a fire hydrant, tree, road, building, lake, stream, forest, manhole, water line, gas line, power line, park, property line, fence, boarder, depot, geographical area, stadium, hospital, school, church, store and airport.

45. (previously presented): A method of making a map comprising:

obtaining first geovector information corresponding to at least a first region to be depicted by the map; and

digitally watermarking the first geovector information in the map, wherein said watermarking step comprises digitally watermarking the first geovector information redundantly throughout the map.

48. (previously presented): A method of steganographically marking imagery captured from an aerial platform, said method comprising:

obtaining first geolocation information corresponding to a first region depicted in the imagery captured from the aerial platform;

embedding the first geolocation information in the first region in the form of a digital watermark;

obtaining second geolocation information corresponding to at least a second region depicted in the imagery captured from the aerial platform; and

embedding the second geolocation information in the imagery captured from the aerial platform in the form of a digital watermark.

49. (previously presented): The method according to claim 48, wherein the second geolocation information is embedded only in the second region.

50. (previously presented): A method of steganographically marking imagery captured from an aerial platform, said method comprising:

obtaining first geolocation information corresponding to a first region depicted in the imagery captured from the aerial platform;

embedding the first geolocation information in the imagery captured from the aerial platform in the form of a digital watermark, wherein the first geolocation information is redundantly embedded in the imagery captured from the aerial platform.